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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,284	11/15/2001	Dong Wu	56530US002	9016
32692	7590	02/20/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			SHOSHO, CALLIE E	
PO BOX 33427				
ST. PAUL, MN 55133-3427			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 02/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/000,284

Applicant(s)

WU ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 11/24/03.

The following rejection is non-final in light of the rejection of claims 19-22 by Kubota et al. (U.S. 5,846,306) in view of Krepski et al. (U.S. 5,929,160). Although the limitations of these claims were discussed in the previous rejection utilizing Kubota et al. in view of Krepski et al. (see paragraph 8 of the office action mailed 8/21/03), claims 19-22 were inadvertently not indicated as rejected by Kubota et al. in view of Krepski et al.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2, 4, 6-9, 15-27, 34-49, and 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (U.S. 5,846,306) in view of Krepski et al. (U.S. 5,929,160).

The rejection is adequately set forth in paragraph 8 of the office action mailed 8/21/03 and is incorporated here by reference.

4. Claims 1-5, 9-16, 23-25, 27, 31, 34-39, 42-50, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu (U.S. 5,889,083) in view of Krepski et al. (U.S. 5,929,160).

The rejection is adequately set forth in paragraph 9 of the office action mailed 8/21/03 and is incorporated here by reference.

5. Claims 1-2, 4-9, 15-16, 23-25, 27-30, 32-37, 40, 42-49, and 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erdtmann et al. (U.S. 6,533,408) in view of Krepski et al. '160 (U.S. 5,929,160).

The rejection is adequately set forth in paragraph 10 of the office action mailed 8/21/03 and is incorporated here by reference.

Response to Arguments

6. Applicants' arguments filed 11/24/03 have been fully considered but they are not persuasive.

Specifically, applicants argue that there is no motivation to combine Kubota et al., Zhu, or Erdtmann et al. with Krepski et al. '160 given that Krepski et al. '160 is not drawn to ink jet inks as are each of Kubota et al., Zhu, and Erdtmann et al. as well as the present claims.

It is agreed that there is no disclosure in Krepski et al. '160 of ink jet ink, however, applicants' are reminded that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an applicants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Krepski et al. '160, therefore, is a reasonably pertinent reference, because it teaches that silyl-terminated sulfopoly(ester-urethane) polymer imparts toughness, weatherability, abrasion resistance, and enhanced adhesion, which is a

function especially pertinent to the invention at hand. Further, while there is no disclosure in Krepski et al. '160 of ink jet inks, Krepski et al. '160 do disclose using silyl-terminated sulfopoly(ester-urethane) polymer in aqueous compositions comprising pigment, dispersant, defoamer, wetting agent, etc. (col.15, line 54-col.16, line 17) which is very similar, if not identical, to ingredients found in ink jet inks.

Applicants also argue that there is no motivation to combine Krepski et al. '160 with Kubota et al., Zhu, or Erdtmann et al. given that each of Kubota et al., Zhu, and Erdtmann et al. already disclose the use of polymer that imparts the same properties disclosed by using the silyl-terminated sulfopoly(ester-urethane) in Krepski et al. '160.

As noted in paragraphs 8-10 of the office action mailed 8/21/03, it is agreed that each of Kubota et al., Zhu, and Erdtmann et al. disclose polymer such as polyurethane but do not disclose silyl-terminated sulfopoly(ester-urethane) polymer. This is why each reference is used in combination with Krepski et al. '160 which discloses specific type of polymer, i.e. silyl-terminated sulfopoly(ester-urethane), as well as motivation for using such polymer.

While Kubota et al. disclose using thermoplastic polymer to provide improved water resistance and rubbing resistance, Zhu discloses using polymer as binder to provide abrasion resistance and adhesion, and Erdtmann et al. disclose using polymer to provide improved abrasion resistance, the motivation for using silyl-terminated sulfopoly(ester-urethane) polymer as disclosed by Krepski et al. '160 is to impart toughness, weatherability, abrasion resistance, and enhanced adhesion. That is, not only does the silyl-terminated sulfopoly(ester-urethane) polymer of Krepski et al. '160 impart the advantages exhibited by the polymers disclosed by

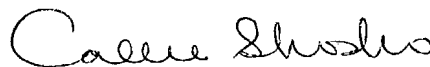
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Kubota et al., Zhu, or Erdtmann et al., but additional advantages, and thus, there is motivation to use the silyl-terminated sulfopoly(ester-urethane) polymer as the polymer in the ink of Kubota et al., Zhu, or Erdtmann et al.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
2/17/04